WATER RIGHT CLAIMS EXAMINATION
MANUAL

EXHIBITS APPENDIX

ISSUED BY AND FOR
WATER RIGHTS BUREAU
WATER RESOURCES DIVISION
MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
LARRY HOLMAN, BUREAU CHIEF
BOB ARRINGTON, ADJUDICATION PROGRAM MANAGER
NOVEMBER, 1987

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EXHIBIT III-1
STANDARD ABBREVIATIONS

Measurement Abbreviations

AF	Acre-foot or acre-feet
AF/A	Acre-feet per acre
C	Cubic feet per second (on computer printout)
cfs	Cubic feet per second
ft	foot (feet)
g or G	Gallons (on computer printout)
gpd	Gallons per day
gpm	Gallons per minute
gpm/ac	Gallons per minute per acre
Ht	Height
in	Inches
MI	Miners Inch

Agency Abbreviations

ASCS	Agriculture Stabilization and Conservation Service (USDA)
BIA	Bureau of Indian Affairs (USDI)
BLM	Bureau of Land Management (USDI)
BuRec	Bureau of Reclamation (USDI)
DNRC	Department of Natural Resources and Conservation
EPA	Environmental Protection Agency
FS	Forest Service (USDA)
GLO	General Land Office
NPS	National Park Service (USDI)
RWRCC	Reserved Water Rights Compact Commission
SCS	Soil Conservation Service (USDA)
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USGS	United States Geological Survey
WC	Water Court
YRCC	Yellowstone River Compact Commission

Other Abbreviations

C	Certificate (as part of water right number)
COS	Certificate of Survey
Cp	Claimant contact point
D	Decreed Right
DLC	Desert Land Claims
dvrs	Diversion
e.g.	for example
Ext	Extended
F	Filed Right
FO	Field Office
G	Groundwater (on computer printout)

EXHIBIT III-1 (cont.)

Gen	Generate
GW	Groundwater
HES	Homestead Entry Survey
HP	Horsepower
i.e.	that is
ID	Identification
K	Acknowledgement (as part of water right number)
Lbry	Library
M	Current owners (on computer printout)
MCA	Montana Codes Annotated
MM/DD/YY	Month, day, and year
No.	Number
ownr	Owner
P	Permit (as part of water right number)
POD	Point of diversion
POU	Place of use
PRCL	Parcel
Purp	Purpose
PVC	Polyvinyl chloride (plastic)
Qtr sec	Quarter section
quad	Quadrangle
RCM	Revised Codes of Montana
Relt	Relation
Rge	Range
rmrk	Remark
rsrv	Reservoir
S	Surface water (on computer printout)
SB	Senate Bill
SB76	Senate Bill 76
Sec	Section
T	Original owners (on computer printout)
Trl	Trailer
TRS	Township, Range, Section
TWP	Township
U	Use Right
UT	Unnamed Tributary
W	Claim (as part of water right number)
WRS	Water Resources Survey

Owner Name and Address Abbreviations

See Exhibit IV-6, "Owner Name/Address Standards"

EXHIBIT III-4

SNYOPSIS OF ADJUDICATION PROGRESS FOR BASIN _____

Field Office: _____ Date: _____

1. Begin examination _____

2. Examination completed _____

3. Corrected worksheets to Records _____

4. Review abstracts from Records _____

5. Review abstract updates completed _____

6. Review copy of decree issued _____

7. Review copy corrections completed _____

8. Temporary preliminary decree issued _____

9. Objection deadline _____

10. Extension for objections _____

11. Preliminary decree _____

12. Objection deadline _____

13. Extension for objections _____

14. Final decree issued _____

Comments:

_____

_____

_____

_____

_____

_____

Personnel involved in examination: _____

_____

_____

_____

EXHIBIT III-6 (cont.)

TOWNSHIP _____ RANGE _____

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EXHIBIT IV-3
IDENTIFICATION CODES

STATUS OF WATER RIGHT CODE

A	application for permit received
B	received NOC (602)
C	certificate issued
D	declaration (Powder River)
E	exempt existing rights
F	terminated Powder River Declaration
G	application for change
H	approved change
I	public noticed application for permit
J	incomplete SB76 water right data not used
K	achnowledgment issued
L	application for reservation
M	approved reservation
N	denied application for permit
O	terminated (SB 76) claim
P	provisional permit issued
Q	temporary permit issued
R	completed plan portion of approval reservation
S	suspended new appropriation file
T	terminated new appropriation file
U	federal reserve claim
V	sever and sell
W	claim (SB 76) to water used prior to 7-1-1973
X	code reserved (SB-76)
Y	code reserved (SB-76)
Z	'subsidiary' irrigation district claim (SB 76)

Example: 42M-W333333-00 "W" is the ID status code.

ORIGIN OF WATER RIGHT CODE

D	decree (SB76)
F	filed (SB 76)
N	new use of water (on or after July 1, l973)
P	Powder River adjudication
R	federal reservation (SB 76)
S	secretarial right (SB 76)
U	use right (SB 76)

EXHIBIT IV-3 (cont.)

USE CODES

AS	agricultural spraying
CM	commercial
DM	domestic
DW	dewatering
EC	erosion control
ED	exploratory drilling
FC	flood control
FP	fire protection
FR	fish raceways
FW	fish and wildlife
GP	geothermal, power generation
IN	industrial
IR	irrigation
IS	institutional
LG	lawn and garden
MC	municipal
MD	multiple domestic
MN	mining
NV	navigation
OF	oil well flooding
OT	observation and testing of groundwater aquifer
PA	pollution abatement
PG	power generation
RC	recreation
SC	sediment control
ST	stock
WI	wildlife

MEANS OF DIVERSION CODES

BK	bucket
DD	diversion dam without impoundment
DK	dikes (i.e., spreader dikes)
DM	dam with impoundment
DP	dam with pit
DR	drain ditch
DS	developed spring
DT	ditch
HG	headgate with ditch or pipeline
IG	infiltration gallery
IN	instream use
LS	livestock drinking directly from source
NO	natural overflow (natural flooding)
PL	pipeline
PM	pump (fuel, electric, hand, windmills, hydraulic rams)
PT	pit (sump)
SB	springbox
SI	natural subirrigation
US	undeveloped spring
XX	other (a 'DM' remark should be coded if used)

EXHIBIT IV-3 (cont.)

METHOD OF IRRIGATION CODES

D	water spreading
E	sprinkler/flood
F	flood
N	natural subirrigation
O	natural overflow (natural flooding)
S	sprinkler
X	other

"Verification" Process Codes (OBSOLETE)

A	sprinkler/furrow
B	border dike
C	contour ditch
G	ditch system of other type
H	furrow
I	furrow/flood
J	sprinkler/furrow/flood
M	multiple methods
P	parallel ditch

COUNTY CODES

BE	Beaverhead
BH	Big Horn
BL	Blainer
BR	Broadwater
CA	Carbon
CH	Chouteau
CR	Carter
CS	Cascade
CU	Custer
DA	Daniels
DL	Deer Lodge
DW	Dawson
FA	Fallon
FE	Fergus
FL	Flathead
GA	Gallatin
GF	Garfield
GL	Glacier
GR	Granite
GV	Golden Valley
HI	Hill
JB	Judith Basin
JE	Jefferson
LA	Lake
LC	Lewis and Clark
LI	Liberty
LN	Lincoln
MA	Madison
MC	McCone
ME	Meagher
MI	Mineral
MS	Missoula
MU	Musselshell
PA	Park
PE	Petroleum
PH	Phillips
PI	Prairie
PO	Pondera
PR	Powder River
PW	Powell
RA	Ravalli
RI	Richland
RO	Roosevelt
RS	Rosebud
SA	Sanders
SB	Silver Bow
SG	Sweet Grass
SH	Sheridan
ST	Stillwater
TE	Teton
TO	Toole
TR	Treasure
VA	Valley
WH	Wheatland
WI	Wibaux
YE	Yellowstone
YP	Yellowstone Park

EXHIBIT IV-5
STANDARDIZED NUMERAL AND LETTER PRINTING FORMAT

0	Closed circle with no added identifying characteristic.
1	Single veritical bar, no added identifying characteristic.
2	No loop at bottom.
3	Curved lines, no straight top line.
4	Open top to reduce confusion with "9".
5	Vertical and top lines joined at right angle.
6	Loop closed at bottom to avoid confusion with zero or "b".
7	Crossbar used in Europe confused with letter "Z". Do not use crossbar.
8	Made with two circles adjoining vertically to avoid confusion with ampersand and dollar sign.
9	Straight leg.
A	Use of square top not supported by evidence of confusion.
B	Overhang top and bottom to reduce confusion with "8" or "13". Distinct center division required to avoid confusion with "D".
C	Some similarity to left parenthesis if curve is not deep enough.
D	Overhang top and bottom to reduce confusion with zero.
E	Avoid rounded left side is to reduce confusion with ampersand.
F	Similar to letter "E" above.
G	Strong serif reduces confusion with "C", "6", or zero.
H	Parallel sides.
I	Serifs top and bottom are standard.
J	Top serif reduces confusion with "U".
K	Slanting legs are joined at center.

EXHIBIT IV-5 (cont.)

L	No special convention.
M	Pointed tops, legs spread at bottom, center extends to bottom.
N	Parallel legs.
∅	Virgule slanted right added to distinguish "0" from zero.
P	Overhang at top for consistency with "B", "D", and "R".
Q	No special convention.
R	Overhang at top for consistency with "B", "D", and "P".
S	Serif added at top to distinguish from "5" and dollar sign.
T	No special convention.
U	Clearly rounded bottom to distinguish from "V".
V	Clearly straight sides to distinguish from "U".
W	Center division extends to top. Avoid rounded bottom.
X	No special convention.
Y	Leg bisects angle formed by arms to avoid confusion with "4".
Z	Do not use European crossbar. Make angles sharp to avoid confusion with "2".

EXHIBIT IV-6
OWNER NAME CODING PROCEDURE

Type	Coding Procedure
The	at the beginning of a name "The" is not coded.
Et al	is ignored.
Mrs.	in parenthesis immediately after first name: John (Mrs)
Junior	Abbreviated "Jr". Follows last name by one space, preceded by a comma. (Smith, Jr)
Agent	code in the first line of the address.
Guardian	ward coded as owner; "Guardian" coded in first line of address (% John Smith, Guardian).
DBA (doing business as)	is ignored.
Towns and Cities	code name followed by "town of" or "city of" (Roy, Town of).
Trustee	if listed WITHOUT trust, code as Trust (see below). If listed WITH trust, is coded in the first line of the address (% First National Bank, Trustee).
Individual Trusts	coded last name, comma, first name, middle initial, Estate of and Estates Trust. (Smith, John J Estate of). Type code is "C".
Non-individual trusts	as seen (El-CI Stroms Trust).
Partnership	treat as a business. The word "partnership" is not coded unless it is a part of the name. Type code is "C".
Family Partner-ships, Trusts, & Limited Partner-ships	code last name, comma, type of entity. (Smith, Family Partnership). Type code is "C".
Co. & Inc. with a person's name	code as (Smith, John J Ranch Co) (Smith, John J. Inc.) Type code is "C".
Inc. with no last & 1st name	code straight across with no commas (Osco Drug Inc). Typee code is "C".
Names such as Mc Neil, Van Oosen	code with no space (McNeil, VanOosen).

EXHIBIT IV-6 (cont.)

First name is an initial & initial is a first name — code in the first name field (J John).

OWNER ADDRESS CODING PROCEDURE

Addresses are standardized. If the address is too long to fit in the first address line, it is divided at a natural division point and continued in the second address line. Canadian addresses are the only exceptions.

Canadian. In the case of Canadian addresses, the street address goes in the first address line. The city and province go in the second address line. "Canada" and the zip code go in the city line. Skip the state line and fill the US zip code field with zeros.

Below are listed the abbreviations to be used in addresses.

Address Abbreviations

To be abbreviated all the time (DO NOT use periods):

North	N	South	S
East	E	West	W
Northeast	NE	Northwest	NW
Southeast	SE	Southwest	SW
Drive	Dr	Road	Rd
Street	St	Lane	Ln
Avenue	Ave	Rural Route	Rr
General Delivery	Gen Del	Star Route	Star Rt
Highway	Hwy	Apartment #1	Apt 1
P.O. Box(*)	PO Box (*)	In C/o	%
Trail	Tr	Court	Ct
Square	Sq	Suite	Ste
Library	Lbry	Boulevard	Blvd
Building	Bldg		
First Street	1st St	Second Street	2nd St
Third Street	3rd St	Fourth Street	4th St

*NOTE: If address is listed just as "Box 1" the PO is not put in.

Abbreviations to be used only when more room is needed:

Trailer	Trl	Creek	Cr
Village	Vlg	Center	Ctr
Gulch	Glch	River	Rvr

EXHIBIT IV-8
QUESTIONNAIRE COVER LETTER
(Use Field Office Letterhead)

February 3, 1988

John Q. Wateruser
Bottomland Ranch
Floodplain, Montana 59999

RE: Claim No. 99Z-W999999-00

Dear Mr. Wateruser:

The Montana Water Court has begun the preliminary work necessary to issue a water right decree in the Bitterroot River basin. At the request of the court, the Department of Natural Resources and Conservation (DNRC) staff is reviewing all the water right claims in the basin for completeness and accuracy. Information gathered by DNRC will be sent to the Montana Water Court.

You can assist us in this review by completing the enclosed questionnaire. The questionnaire serves to gather additional facts and data regarding the status/and operation of your water right. With the information you provide, a more complete record of your water right will be established.

A copy of the water right claim that had been submitted to the court is enclosed. It may be helpful to review it. After reviewing the claim please complete and return the questionnaire to the Missoula Field Office within thirty (30) days of the receipt of this letter. If you cannot return the questionnaire within that time period, please let me know.

If you have any questions or need assistance, feel free to contact me at 721-4284. Thank you in advance for your cooperation.

Sincerely,

Al E. Quot
Water Rights Technician

Enclosure

NOTE: This is a candidate for mail merge on the Apple IIe if sent to a number of claimants simultaneously. Make format adjustments accordingly.

EXHIBIT IV-10
FINAL LETTER
(Use Field Office letterhead)

_____
(DATE)

_____
_____
_____

RE: Statement of Claim No./Nos._____

Dear _____:

Your water rights are very important!

On _____, a letter (copy enclosed) was sent to you with a request concerning your water right/rights. The letter indicated that we needed to hear from you within thirty (30) days. As of today, we have not received a reply.

The Montana Water Courts have instructed the Department of Natural Resources and Conservation to examine the claims in your area in a timely manner. We cannot continue to hold up the adjudication process.

We are concerned that all water rights in the State of Montana are fully and accurately protected, and hope you will contact this office to make an appointment within thirty (30) days of your receipt of this letter. If you do not respond before _____ your water right/rights will be processed with what appears to be incorrect or inadequate information. Based on this information, your water right/rights may not be correctly represented when the decree for this basin is issued.

Please call the Havre Regional Office today at (406) 265-5516. Thank you.

Sincerely,

Joe Examiner
Water Resource Specialist

Enclosure

EXHIBIT IV-12
DNRC FIELD INVESTIGATION FORM

PART 1 -- GENERAL DATA

1. Water Right Nos. _____
(Case No.) _____

2. Claimant (in data base)_____
A. Is current owner the same as claimant on SB76 claim? _Yes _No
B. If no, has a transfer been filed? ___ Yes ___ No
C. List current owner if different from claimant listed above
Name(s) _____
Address _____
City or Town _____
State _____ Zip Code _____ Phone _____

3. Person contacted for investigation same as claimant?
___ Yes ___ No Explain _____
_____

4. Person(s) accompanying investigator _____
_____

5. Individual interviewed: ___ Claimant ___ Other (specify)
Name _____
Address _____
Relationship to land: _ Landowner _ Lessee _ Other (explain)
_____

6. Aerial Photographs and Maps _____
_____
_____

PART 2 -- FIELD INVESTIGATION

1. Source of water _____

2. Purpose of use _____

3. Points of Diversion and Means of Diversion

QTR SEC	SEC	TWP	RGE	COUNTY	MEANS

Describe size, operational status, etc.:

4. Storage

A. Reservoir located off-stream (away from source)? __Yes __No

B. If yes, give location: _____¼_____¼ _____¼ Section
Township _____ N/S Range _____ E/W _____ County.

C. Total volume of pit _____. Compute as follows:
Surface area _____ x max depth _____ x 0.5 = _____acre-feet
acres feet volume

Total volume of reservoir _____. Compute as follows:
Surface area _____x maximum depth _____ x 0.4 = _____ acre-feet
acres feet volume

D. Dam Height _____ Free Board _____

E. Release other than spillway: _____Yes _____No
Release is _____ controlled _____ uncontrolled.
Is release operational? _____Yes _____No
Describe _____

F. Water has flowed over spillway _____Yes _____No

G. Describe operation: _____

5. Means of conveyance to place of use:
_____pipeline _____ditch _____natural carrier _____other (explain)
_____

Describe size, length, operational status, vegetation, etc:_____
_____
_____

6. Place of Use (see map)

A. Brief description of system:

B. Operational? _____Yes _____No
Date of last use (month, day, year): _____

C. Method of irrigation:
_____ Flood _____
_____ Sprinkler _____
__ Other _____

D. Type of Crops: _____Alfalfa _____Pasture _____Other (explain)
_____
_____

EXHIBIT IV-12 (cont.)

7. Runoff or released water returns to the same watercourse?
   _____Yes _____No (explain) _____
   _____

8. Period of Use: From _____ to _____ inclusive of each year
   A. What is the average number of hours water is diverted per day?_____
   B. What is the average number of days water is diverted per year?_____
9. Period of Diversion: From _____ to _____ inclusive of each year

10. Flow rate
   A. Claimed _____
   B. Guideline _____
   C. Observed: _____estimated_____
      _____measured _____
   D. Comments _____

11. Volume
   A. Claimed _____
   B. Guideline _____
   C. Observed: _____estimated _____
      _____measured _____
   D. Comments _____

12. Supplemental to other rights _____Yes _____No
   Explain: _____
   _____
   _____

13. History of Develoment:
   A. _____Original Development _____Change _____Unknown
   Additional comments (including reason for change and approximate dates)

   B. Date development was started (if known) _____
   C. Date development was completed (if known) _____
   D. Date of first use (if known) _____
   E. Priority date _____
   F. Date of Water Resources Survey _____
      Was this system operational? _____Yes _____No
   G. Number of irrigated acres:
      Claimed _____
      Water Resources Survey _____
      Observed _____
      Maximum in any one year _____
      Explain any differences _____
      _____
      _____
      _____

EXHIBIT IV-12 (cont.)

14. Water supply comments _____

15. General Comments

A. Soils _____

B. Topography _____

C. Slope _____

Investigator _____ Date _____

EXHIBIT IV-13
FIELD INVESTIGATION LOG

NAME OF CLAIMANT(S)	CLAIM NUMBER(S)	CASE NUMBER(S)	REQUESTED BY	PURPOSE OF INVESTIGATION	DATE OF ORDER OR REQUEST	DATE OF INVESTIGATION	DATE REPORT DUE	DATE REPORT SENT AND TO WHOM	COMMENTS

NOTE: It is suggested that 8 1/2" x 14" paper be used.

EXHIBIT IV-17

Claim # _____

PHOTOGRAPH MOUNTING AND LABELING FORMAT

PHOTOGRAPH

PHOTO #_____ TAKEN BY_____ DATE _____
DIRECTION OF VIEW _____
SUBJECT_____
_____
_____

PHOTOGRAPH

PHOTO #_____ TAKEN BY_____ DATE _____
DIRECTION OF VIEW _____
SUBJECT_____
_____
_____

EXHIBIT IV-17

Claim # _____

PHOTOGRAPH MOUNTING AND LABELING FORMAT

PHOTO # _____
TAKEN BY_____
DATE_____
DIRECTION OF VIEW_____
_____
_____
SUBJECT_____
_____
_____
_____
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_____
_____

PHOTO # _____
TAKEN BY_____
DATE_____
DIRECTION OF VIEW_____
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SUBJECT_____
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EXHIBIT IV-18
FIELD INVESTIGATION REPORT
EXAMPLES
(Use Field Office letterhead for first page)

TO: Constance Vigil, DNRC Legal Counsel

FROM: Al Doright, Water Right Technician

APPROVED BY: Larry Wholesome, Bureau Chief (if investigation ordered by Water Court)
Simon Lagree, Field Manager (if investigation requested by Department's legal staff)

DATE: February 31, 1999

CLAIMS: 99Z-W000000-00 (Irrigation): John Q. Wateruser

INTRODUCTION

1. Who assigned the field investigation, and when was it assigned, date conducted, and by whom?
   Example 1. Pursuant to a September 9, 1986 order from the Montana Water Court, a field investigation of claim 40A-W-201209 was conducted on September 17, 1986 by Al Doright of the Department of Natural Resources and Conservation (DNRC).

2. Purpose of field investigation.
   Example 1. The purpose of this investigation was to identify and quantify the place of use, flow rate, and volume as requested by the Water Court. In addition, other claimed items were field checked for accuracy and feasibility.

   Example 2. The purpose of this investigation was to evaluate the place of use, acres, flow rate, and volume as objected to by the DNRC and to field check other claimed information for accuracy and feasibility.

3. Sources of information used.
   Example 1. This field inspection served as the primary source of data for the report. Other sources of information include the original claim file, the SCS aerial photo_____ (dated)_____ ,1979, the _____ USGS Quadrangle map (19__), the 19__ _____ County Water Resource Survey, and interviews with the claimant. In addition, Mr. Derrick of the Deep Drilling Company in Bozeman supplied flow rate information about the pump.

4. Describe any preliminary contact with the claimant to set up an appointment. List all persons present during the inspection. **Example 1.** On September 11, 1986, all parties involved were contacted by certified letter to set up an appointment (Figure___). Present during the investigation were John Q.

Wateruser, the claimant; and Frank Speaks, her consultant. By prearrangement Conrad Barr and Robert Writ, attorneys for the claimant and objector respectively, were not present.

5. Closing paragraph to introduction.
Example 1. Information gathered pursuant to the DNRC's request for a field investigation is given below. Each element of a water right objected to by the DNRC is addressed. The other elements of the water right have been reviewed and are discussed if the on-site inspection or other data are inconsistent with that shown in the temporary preliminary decree, dated _____, 19___.

Example 2. Information gathered pursuant to the Water Court's request for a field investigation is given below. Although the investigation was limited by the Water Court to certain items, other elements of the water right have been reviewed and are discussed if the on-site inspection or other data are inconsistent with that shown in the temporary preliminary decree, dated _____, 19___.

DESCRIPTION OF SYSTEM

Example 1. (irrigation claim)
The system consists of diverting water from the Boulder River at the NEA SEA SWA, Section 11, TWP 02S, RGE 13E, Sweet Grass County. The water is then conveyed approximately 2 miles via the Skillman ditch to the claimed place of use to flood irrigate the hayland between the ditch and the Boulder River. Water is diverted from the Skillman ditch by 12 inch corrugated metal pipes with slide headgates into a contour ditch irrigation system. The claimed place of use slopes moderately to the river and the soil appears to consist of a cobbly loam (see Figure___).

Example 2. (commercial claim)
This water right is used at a combination cafe, motel, and trailer court business on 3 acres located five miles south of Twin Bridges in Section 6, TWP 06S, RGE 02W, Madison County (Figure___). The cafe has a seating capacity of 25. The motel has eight units, and the trailer park has ten spaces. The source of water is a well with a submersible pump as the means of diversion. [Burgers are 98?, fries are greasy, beds are U-shaped and lumpy.]

Example 3. (fish and wildlife claim)
According to Peter McGee (co-owner) on or about January 25, 1979 an earthen dam was constructed across a small unnamed tributary to Meadow Creek. This instream impoundment structure consists of a 10-foot high dam which backs up less than A surface acre of water with a maximum depth of eight feet.

At the time of construction this reservoir was stocked with trout from the "old Emigrant hatchery". (No fish stocking permit was secured.) Peter McGee indicated that a few fish probably still exist in the pond, which is also utilized for stockwater.

The reservoir is located approximately É mile upstream from the confluence with Meadow Creek (see Figure___). A 10 inch diameter stand pipe in the reservoir acts as a capacity regulating structure and allows water to be routed through the dam and re-enter the historic creek channel.

Example 4. (domestic claim)

The system currently in place is a spring development that consists of four separate springs, each with a catchment basin. Water from each catchment basin flows into one 2100-foot, U inch plastic pipe which delivers the water to a collection box. An additional spring is located 50 feet southwest of a collection box where the water from all five springs is combined. A delivery line of U inch plastic pipe, 2600 feet in length, extends from the collection box to a 1000 gallon storage reservoir (see Figure___).

Two lines continue from the storage reservoir to two places of use. One line presently serves the Hauck residence (W-031038) and the other line served the old Ruben LaBaron house (W-006451), now owned by Sherry L. Gray. According to Mr. Hauck the line to the LaBaron house, although in good condition, was shut off in 1980 because the house is unoccupied.

Presently the system is utilizing only 2 of the 5 spring developments. The wooden catchment basins at springs 1, 2, and 3 (see Figure___) are presently dry, and the catchment basins have been destroyed. Mr. Hauck stated that springs 1, 2, and 3 have not been used since the mid-1950's. The wooden catchment basins at springs 4 and 5 are in poor condition but have water present on the surface. These two spring developments are still providing water to the collection box. The collection box and delivery line that leads to the 1000 gallon reservoir are in good condition.

RESULTS OF INVESTIGATION

Example 1 (irrigation claim)

Diversion:

The claimed and decreed point of diversion (P.O.D.) was for a reservoir with a dam as the means of diversion. Through the field investigation, the diversion means was found to be a dike. The P.O.D. legal land description observed was the same as that claimed and decreed. No reservoir or reservoir impoundment structure was found. Mr. Smith stated that a reservoir has never been associated with this diversion. The Valley County Water Resource Survey published in June of 1968, incorrectly refers to the diversion structure as a stock water reservoir. The 1959 aerial photos used in compiling the Valley County Water Resources Survey show water backed up behind the dike (see Figure ___), which was the reason for a reservoir being claimed and decreed.

The dike observed during the investigation was washed out. The claimant stated that the dike was already washed out when he purchased the property in 1972. Jordan Coulee appears to run in the original channel through the dike, with no water being diverted by the dike. There are sagebrush and numerous prairie grasses growing in the stream channel. No visible water marks could be seen.

Example 2 (irrigation claim)

Flow Rate:

The claimed flow rate was 4.0 cfs. In the Temporary Preliminary Decree this was reduced to 3.6 cfs through application of the 17 gpm/acre Water Court standard. Due to low streamflows, no diversion was taking place during the investigatons, and no flow rate measurements were made. Mr. Warp estimated that the three ditches could each convey up to 1.5 cfs. It should be noted that the source is an intermittent stream. Mr. Warp stated that some years it has been necessary to divert water at a greater than normal rate because of the shortened period during which water was available.

Example 3 (commercial claim)
Flow Rate:

The claimed and decreed flow rate was for 20 gallons per minute (gpm). This flow rate figure was based on pump test data provided on GW4 "Declaration of Vested Groundwater Rights" submitted with the original claim file. The claimant stated that no flow rate measurement for the É horsepower pump has ever taken place. The claimant did not know the make and model of the pump.

According to Mr. Derrick of the Deep Drilling Company in Bozeman, the average flow rate that can be expected from a É horsepower Myres pump Model No. S2J51-511 with a 12-foot lift is between 10 - 15 gpm.

The attached February 5, 1981 memorandum concerning estimated flow rates based on horsepower vs. vertical lift ratio suggests that a É horsepower pump with a 12-foot lift can provide about 16 gpm (see Figure___).

Example 4 (irrigation claim)
Volume:

The claimed volume is 166 acre-feet per year. Schieffert and Carpenter discussed the irrigation practices in an attempt to estimate volume diverted each year. Schieffert reported that he pumps into the upper ditch at about 800 gpm average for 20 days per irrigation. He estimates that he pumps into the lower ditch at about 2200 gpm average for 11 days per irrigation. From this information, the following estimated volume was calculated:

EXHIBIT IV-18 (cont.)

800 gpm x 20 days/irrig. x .0044191 af/gpm/day = 70.70 af/irrig.

2200 gpm x 11 days/irrig. x .0044191 af/gpm/day = 106.94 af/irrig.

Schieffert estimated that he may irrigate up to 1.5 times per year, which would mean a total volume of 266.46 ac-ft per year. This exceeds the Water Court volume guideline of 9.4 acre-feet per acre or 216.20 acre-feet per year. The Water Court guideline
represents total system efficiency of 20 percent. This calculated diverted volume represents a total system efficiency of 16.2 percent. Reasons for reduced efficiency could include the larger head required to push water across the generally gravelly soils. It should be noted that this calculated diverted volume figure is based solely on estimates.

Example 5 (commercial claim)
Volume:

The claimed and decreed volume for this right is five acre-feet per year. According to the claimant, no measurement of the annual volume diverted has ever taken place. The maximum volume possible at the decreed flow rate is 48.8 acre-feet per year. The claimed volume is less than the Water Court guideline, which limits commercial volumes based on a twelve hour day, i.e., 24.4 acre-feet per year for this diversion. Attached is a copy of Manual of Individual Water Supply Systems by USEPA. This document indicates that the decreed volume of 5 acre-feet per year reflects typical daily water use for a water system involving a cafe, motel, and trailer court.

Example 6 (irrigation claim)
Place of Use and Acres Irrigated:

The claimed and decreed place of use and acres irrigated are:

23.00 acres		NW?	Sec 19	TWP 02S	RGE 13E	SWEETGRASS CO.
86.00 acres		NE?	Sec 19	TWP 02S	RGE 13E	SWEETGRASS CO.
17.00 acres	NE? NE?		Sec 19	TWP 02S	RGE 13E	SWEETGRASS CO.
17.00 acres	NW? NW?		Sec 20	TWP 02S	RGE 13E	SWEETGRASS CO.
143.00 acres total						

Investigation found the place of use and acres irrigated to be (see Figure___):

46.50 acres	NW?	Sec 19	TWP 025	RGE 13E	SWEETGRASS CO.
41.60 acres	NE?	Sec 19	TWP 02S	RGE 13E	SWEETGRASS CO.
98.10 acres total					

This total includes virtually all irrigable land between the Elges-Muncaster Ditch and the West Boulder River. The major area of discrepancy between this finding and the claimed place of use is that the claim included land irrigated from the Foster-Rule Ditch (43BJ-W-120361). Shieffert reported that this land is not irrigated using the Elges-Muncaster Ditch, that the place of use claimed for W-120359 is in error, and that there is no place of use overlap between 43BJ-W-120359 and W-120361. Therefore, no supplemental rights relationship exists between W-120359 and W-120361.

Example 7 (irrigation claim)
Place of Use and Acres Irrigated:

The claimed place of use (P.O.U.) is for 423 acres of irrigation. In May, 1984 Al Tufte, Water Rights Technician, identified 263 acres when the claim was examined using USDA aerial photo no. 779-999, dated 7/29/78.

During the investigation, two facts about the P.O.U. were observed that need to be addressed.

First, the observed P.O.U. in Section 1 has two methods of irrigation: ditch and natural overflow. According to Mr. Rath, the natural overflow is because the large drainage area above the P.O.U. causes high water during spring runoff and after big storms.

Second, an old ditch (see photos 1 and 2) covers part of the claimed P.O.U. The ditch is in good condition but it lacks a structure to divert water. Mr. Rath could not recall the exact date this ditch had last been used. The land below this ditch (43.2 acres) was not being irrigated.

Mr. Rath agreed to the areas observed as irrigated below the storage reservoir in Section 1, 12, 18, and 19 (see photos 3 and 4). As mapped with Mr. Rath and later measured with a digital planimeter, 239.5 acres are presently irrigated and an additional 43.2 acres could have been historically irrigated. Mr. Rath had no knowledge of when or if the 43.2 acres had been irrigated. Of the 239.5 acres being presently irrigated, 119.8 acres are flooded, and 119.7 acres are dike and natural overflow. The P.O.U., number of acres claimed, and number found during the field investigation are shown in Table____.

EXHIBIT IV-18 (cont.)

SUMMARY

Example 1 (irrigation claim)

The means of diversion is a dike. The dike is breached, no water is being diverted, and no irrigation is taking place. Five acres would be the maximum irrigable acres. Because no reservoir was found, the reference to a reservoir in the decree appears unnecessary.

Example 2 (irrigation claim)

According to field observations, the controlled point of diversion off Miles Gulch is a headgate located in the SEA NWA NWA of Sec. 4, TWP 9N, RGE 6W, Powell County, and not in the location decreed. The conveyance system from this diversion irrigates a total of 24.0 acres. No actual measurements were taken of flow rate and volume. Based on identified acres proportionally related to the original claimed flow rate (1.25 cfs) and volume (120.0 acre-feet/year), the adjusted flow rate and volume using Water Court guidelines would be 0.75 cfs and 72.0 acre-feet/year, respectively.

Example 3 (domestic claim)

Based on field investigation observations, water rights for the Turk property had both domestic and irrigation purposes. The 5 acres decreed as "lawn and garden" use was found to be 20 acres of sprinkler "irrigation" used for pasture and hay production. The place of use of the 20 acres is:

5.0 acres	SE? SW? SW?	Sec 36	TWP 10N	RGE 17W	GRANITE CO.
15.0 acres	E? NW? SW?	Sec 36	TWP 10N	RGE 17W	GRANITE CO.
20.0 acres					

The flow rate and volume for the irrigation use as adjusted by Water Court standard for 20 acres would be respectively 0.75 cfs and 170 acre-feet per year.

The domestic use for the homestead cabin based on Water Court standards would have a flow rate of 25 gpm (0.06 cfs) and a volume of 1 acre-foot per year.

The point of diversion was found to be used for the domestic and irrigation purposes. It was identified to be in the SEA SWA SEA of Sec. 35, TWP 10N, RGE 17W, and not as decreed.

All other elements of the water right noted in the decree as claimed appeared to be correct.